AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for the sterilizing/cleaning of an object with an aqueous solution of a peroxide, which comprises ~~sterilizing/cleaning the object with an aqueous solution containing a peracetic acid electrolytically synthesized from acetic acid and/or acetate and an oxygen-containing gas as starting materials~~

providing an electrolytic cell comprising an anode chamber including an anode, a cathode chamber including a gas cathode, a catholyte inlet and a catholyte outlet, a membrane separating the anode and cathode chambers, and a particulate solid acid catalyst arranged between the gas cathode and the membrane,

supplying an oxygen-containing gas to the cathode chamber, supplying an aqueous electrolyte containing acetic acid and/or an acetate to the cathode chamber, and applying a voltage across the anode and the cathode to thereby electrolytically synthesize a peracetic acid-containing aqueous solution, and

contacting the object with the peracetic acid-containing aqueous solution.

2. (original): The method as claimed in Claim 1, wherein the aqueous solution of a peroxide used for the sterilizing/cleaning of the object is reused for electrolytic synthesis.

3. (canceled).

4. (canceled).

5. (currently amended): A method for the electrolytic synthesis of peracetic acid which comprises electrolytically synthesizing peracetic acid from acetic acid and/or acetate and an oxygen-containing gas as starting materials in the presence of a solid acid catalyst, said step of electrolytically synthesizing peracetic acid comprises:

providing an electrolytic cell comprising an anode chamber including an anode, a cathode chamber including a gas cathode, a catholyte inlet and a catholyte outlet, a membrane separating the anode and cathode chambers, and a particulate solid acid catalyst arranged between the gas cathode and the membrane, and

supplying an oxygen-containing gas to the cathode chamber, supplying an aqueous electrolyte containing acetic acid and/or an acetate to the cathode chamber, and applying a voltage across the anode and the cathode to thereby electrolytically synthesize a peracetic acid-containing aqueous solution.